

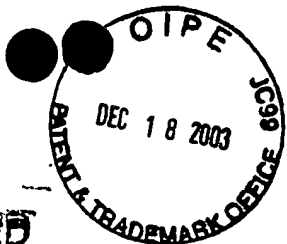
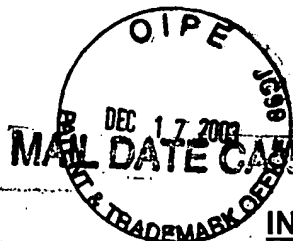
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DEC 24 2003

TECHNOLOGY CENTER R3700

PATENT

Docket No. D 8927B-OC/FOHPT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of  
Carduck, et al.

Serial No. 09/855,002

Filed: 05/14/01

TITLE: A LIQUID DISTRIBUTOR

Examiner: A. Michael Chambers

Art Unit: 3753

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on:

December 16, 2003

Date

Rose A. Stowe

Signature of certifier

Rose A. Stowe

Typed or printed name of certifier

APPEAL BRIEF TRANSMITTAL

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Appellants' appeal brief, in triplicate, is transmitted herewith in accordance with 37 CFR 1.192.

Please charge the required fee of \$330.00 to our Deposit Account No. 50-1177.

This paper is enclosed in triplicate. Order No. 03-0636.

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The Commissioner is hereby authorized to charge any deficiency in the required fee or to credit any overpayment to Deposit Account 50-1177.

Respectfully submitted,

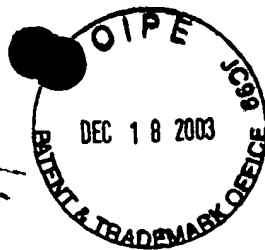
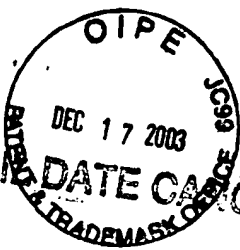


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PATENT

Docket No. D 8927B-OC/FOHPT

3-29-04

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re: Application of:  
Carduck, et al.

Serial No. 09/855,002  
Filed: 05/14/01  
FOR: A LIQUID DISTRIBUTOR

Examiner: A. Michael Chambers  
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Rose A. Stowe  
Signature of certifier

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Typed or printed name of certifier

BRIEF ON APPEAL UNDER 37 C.F.R. 1.192

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

REAL PARTY IN INTEREST

The real party in interest is Cognis Deutschland GmbH & Co. KG, a German company having a place of business at Henkelstrasse 67, 40589 Duesseldorf, Germany.

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RELATED APPEALS AND INTERFERENCES

None.

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### **STATUS OF CLAIMS**

Claims 1-14, 16-30 are pending and the subject of this appeal. Claim 15 has been cancelled, without prejudice.

### **STATUS OF AMENDMENTS**

No amendments were made after final rejection.

### **SUMMARY OF THE INVENTION**

The invention relates to a liquid distributor in the form of a channel distributor with drainage outlets (Figures 1-4). To ensure that the uniformity of distribution of the liquid is largely independent of disturbance factors, for example blockages of the drainage outlets, the drainage outlets are in the form of drainage pipes having a cross-section which tapers in the shape of a nozzle (page 2, lines 29-34 and Figure 4). The inner wall of the nozzle-like tapering of the drainage outlets being made of plastic, or another material resistant to the adherence of solids which would block the flow of liquid through the outlet (page 6, lines 20-26 and Figure 4).

By virtue of this special shape and also the special material at the narrowest point of the drainage pipe, the drainage pipe as a whole remains free from soil in the form of decomposition products on the inner walls which could affect the uniformity of distribution of the liquid through variation of the flow cross-section. Even after prolonged operation, no caking occurs on the inner walls of the drainage pipes (page 2,

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line 34 to page 3, line 6). The stream of liquid does not flow down the inner walls of the lower part of the drainage pipe, but instead freely downwards so that soil does not adhere, i.e. there is no reduction in cross-section which would ultimately result in blockage of the drainage pipe. The choice of the special material for the nozzle ensures that cracking products do not adhere to the inner walls of the nozzle (page 3, lines 7-14).

### **ISSUES**

I. Whether claims 18, 20 and 22 are anticipated under 35 U.S.C. 102(b) by U.S. 3, 936,262 (Hehl).

II. Whether claims 23-29 are anticipated under 35 U.S.C. 102(b) by U.S. 3,899,000 (Ohlswager).

III. Whether claims 1-14 and 16-17, 19, 21 and 30 are obvious under U.S.C. 103(a) over U.S. 5,154,353 (Plachy) in view of U.S. 4,479,509; Figures 1 and 2 (Dear).

### **GROUPING OF CLAIMS**

The claims stand and fall together.

**ARGUMENT**

**I. U.S. 3,936,262 (Hehl) fails to anticipate claims 18, 20 and 22 on the grounds that it fails to disclose each and every element of the claimed invention arranged as in claims 18, 20 and 22.**

It is well settled that anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 U.S.P.Q. (BNA) 193 (Fed. Cir. 1983); *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 218 U.S.P.Q. (BNA) 678 (Fed. Cir. 1983).

Hehl fails to teach the following claimed elements of claim 18:

1. "A liquid distributor".

The Hehl patent is directed to a "Multi-Orifice Injection Nozzle for Injection Molding Machine" (see e.g. the title). Hence, Hehl does not disclose a liquid distributor as this term is understood in the art.

2. "A tapering drainage pipe in the shape of a nozzle".

Component 2 of Hehl's multi-orifice injection nozzle is not a "drainage pipe" nor is it a drainage pipe in the shape of a nozzle. Component 2 is a "connector" (col. 2, line 29). Component 2 is connected to a number of additional components (see the figure), and is not a drainage pipe in the shape of a nozzle as required by these claims, nor are any of the other components of Hehl's injection molding machine.

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As far as claim 20 is concerned, Hehl fails to teach that the liquid distributor is in the form of a channel distributor.

Since Hehl fails to teach a drainage pipe as discussed above, Hehl could not teach the limitations of the drainage pipe as recited in claim 22.

Since Hehl fails to teach each and every element of the claimed invention arranged as in claims 18, 20 and 22, Hehl does not anticipate claims 18, 20 and 22.

**II. Ohlswager (U.S. 3,899,000) fails to anticipate claims 23-29 on the grounds that it fails to disclose each and every element of the claimed invention arranged as in claims.**

Ohlswager teaches the use of a splash baffle in an apparatus for distributing a liquid-vapor mixture to a heat exchanger system or to different chemical reaction zones. The apparatus consists of a hollow vessel having a fluid inlet means, at least two hollow pipes each having a top opening located in the vessel, each pipe having an outlet in fluid communication with a different chemical reaction zone. There is a splash baffle located between the fluid inlet and the top of the pipes. The fluid enters the vessel impinging on the splash baffle located over the top of pipe opening thereby restricting the fluid entering the opening of the pipe (col. 3, lines 32-46). The splash baffle also acts to reduce the kinetic energy of the incoming fluid (col. 5, lines 53-55). The apparatus also contains a plate located between the splash baffle and the opening of the pipe ends. The incoming fluid flows over the plate, bypassing the top opening of the

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pipe. The plate further restricts the flow of fluid. The purpose of the splash baffle and the plate is to minimize the effects of surges of fluid thus maintaining a constant level of fluid by restricting the flow of fluid into the opening of the pipe ends. Ohlswager does not teach or suggest the use of the splash plate to prevent foreign matter from entering the pipe and fouling or clogging the system. Applicants' use of a hood is to prevent the distribution of the liquid from being affected by foreign substances which are lighter than the liquid and which therefore float on the surface. The foreign substances are trapped in and around the hood preventing fouling and clogging of the drainage pipe and the reactor tubes. The hood and its horizontal encircling annular gap provide for minimal flow resistance and the effective retention of soil. Ohlswager's use and purpose of the splash baffle and plate (the hood) are to control liquid surges and to provide a "fluid energy dissipation means". Nothing in the cited reference teaches or suggests the use of a hood to prevent foreign particles from entering a drainage pipe. As stated above, Applicants' purpose for use of the hood is to prevent foreign particles that float on the liquid from clogging the nozzle of the drainage pipe.

Claim 23 requires the presence of a hood with at least one opening. The Ohlswager plates 16 of Figure 1 do not contain any openings. The plate means 16 of Figure 3 is a perforated tray, but this perforated tray does not cover an inlet opening of a drainage pipe against the direct inflow of liquid as required by claim 23.



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With respect to claim 28, the hood is divided by an annular inner wall having at least one opening, such that the drainage pipe is situated within said annular inner wall. Ohlswager does not disclose this embodiment.

Concerning claim 29, Ohlswager does not disclose tapering drainage pipes, nor a preliminary distributor fitted into the main channel of a liquid distributor and wherein the base of the preliminary distributor extends over the drainage pipes.

Since Ohlswager fails to teach each and every element of the claimed invention arranged as in claims 23-29, Ohlswager does not anticipate claims 23-29.

**III. Claims 1-14 and 16-17, 19, 21 and 30 are not obvious under U.S.C. 103(a) over U.S. 5,154,353 (Plachy) in view of U.S. 4,479,509; Figures 1 and 2 (Dear) because the Examiner failed to make out a case of prima facie obviousness.**

In making the rejection, the Examiner first referred to the tapered portion 11 of drainage pipes 13-16 of Plachy. Applicants respectfully point out that there do not appear to be any drainage pipes 13-16 in Figures 1 and 2 of Plachy. Rather, it appears that the Examiner meant to refer to Figure 4 which shows drainage pipes 13-16. Assuming that to be the case, it seems to be the Examiner's position that 11 in Figure 4 of Plachy is a taper in the drainage pipes 13-16. However, column 4, lines 48-50 specifically recites that "...it will be assumed that there are only the two outlet weirs 10 and 11, the flow from which flow through the outlet pipes 13 and 14 respectively". Thus, 11 in Figure 4 of Plachy shows a weir and not a taper in pipes 13 and 14. A weir is not a

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taper. The Handbook of Engineering Fundamentals, 3rd Edition, page 609, defines a weir as "an obstruction placed in a channel to cause the liquid to rise upstream from it and flow over or through it". Merriam-Webster's Collegiate Dictionary, 10th Edition, 2002, defines the term "taper" as a gradual diminution of thickness, diameter, or width in an elongated object. This definition does not include an obstruction in a channel as set forth in the definition of a weir. Thus, Plachy does not teach an element of the claimed invention as alleged by the Examiner as required by law. It is well settled that the prior art reference (or references when combined) must teach or suggest all the claim limitations. In re Royka, 490 F2d 981, 180 USPQ 580 (CCPA 1974).

Dear does not cure the deficiencies of Plachy. Dear's teachings are directed to the control of a high pressure fluid and the valves used to achieve pressure drops in fluid flow lines (column 1, lines 9-11). Component 16 of Dear relied on by the Examiner is a "seat ring" (col. 2, line 3) of unstated composition, designed "to receive the untapered end of plug 18" (col. 2, lines 3 and 4). This disclosure is respectfully submitted to be unrelated to the composition of the inner wall of a nozzle. Combining this disclosure with Plachy, even using hindsight, still does not change the nature of the inner wall of Plachy's drainpipes, nor does it relate to the inner wall of a nozzle. The missing teaching or suggestion of a tapered drainage pipe in Plachy is not found or suggested in Dear.

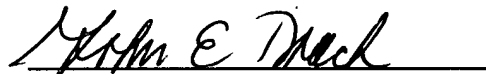
Because both Plachy and Dear fail to teach each and every element of the claimed invention, there could not be any motivation to combine the teachings of Plachy

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and Dear to arrive at Applicants' claims. Therefore, a prima facie case of obviousness has not been made because a basic requirement for prima facie obviousness is missing from the Examiner's rejections of the claims.

It is respectfully requested for the reasons given above, that the Board find for Appellant on all of the issues, and reverse the Examiner's Final Rejections.

Respectfully submitted,

A handwritten signature in cursive script, reading "John E. Drach", is written over a horizontal line.

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**APPENDIX**  
**CLAIMS ON APPEAL**

1. A liquid distributor, said distributor being in the form of a channel distributor comprising a drainage outlet in the form of a drainage pipe having a cross-section, at the upper end of the drainage pipe, which tapers downward in the shape of a nozzle, wherein the inner wall of the nozzle is comprised of a material resistant to the adherence of solids which would block the flow of liquid through the outlet.
2. The distributor of claim 1 wherein said drainage pipe extends upwards from the bottom of the distributor and comprises an inlet opening above the bottom of the distributor.
3. The distributor of claim 2 further comprising a hood, with at least one opening, said hood covering said inlet opening of the drainage pipe against the direct inflow of liquid.
4. The distributor of claim 3 wherein one of the openings of said hood is a horizontally encircling annular gap.
5. The distributor of claim 4 wherein said annular gap is interrupted by webs between the upper and lower parts of said hood.

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6. The distributor of claim 3 wherein a plurality of bores, acting as openings are arranged in a horizontally encircling line around said hood.
7. The distributor of claim 3 wherein at least one bore is in the top of said hood.
8. The distributor of claim 3 wherein the area enclosed by said hood is divided, by an annular inner wall having at least one opening, such that the inlet of said drainage pipe is situated within said annular inner wall.
9. The distributor of claim 3 wherein said nozzle-like tapering of said drainage pipe is formed by a insert arranged in said drainage pipe and with the upper edge of said insert being held in place by the inner wall of said hood.
10. The distributor of claim 3 wherein said drainage pipe comprises an external screwthread by which said drainage pipe is screwed both to the bottom of said distributor and to said hood.
11. The distributor of claim 1 wherein a preliminary distributor is fitted into the main channel of said distributor and the base of said preliminary distributor extends over the drainage pipes in the form of domes.

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12. The distributor of claim 11 wherein a sieve is inserted into said preliminary distributor between the inlet and outlet.
13. The distributor of claim 1 wherein the material of construction of the inner wall of the nozzle is selected from the group consisting of metal, ceramic, graphite, plastic or a combination thereof.
14. The distributor of claim 13 wherein the inner wall of the nozzle is made of plastic.
16. A method of distributing liquid in a substantially vertical reactor with a fixed catalyst bed wherein the distributor of claim 1 is used to enact even distribution of a feed liquid.
17. A method for the hydrogenation of native fats, oils, fatty acids, and fatty acid ester in a substantially vertical reactor with a fixed catalyst bed wherein the distributor of claim 1 is used to enact even distribution of a feed liquid.
18. A liquid distributor having a tapering drainage pipe in the shape of a nozzle.

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19. The liquid distributor of claim 18 wherein the inner wall of the nozzle is comprised of a material resistant to the adherence of solids which would block the flow of liquid through the nozzle.

20. The liquid distributor of claim 18 wherein the liquid distributor is in the form of a channel distributor.

21. The liquid distributor of claim 19 wherein the inner wall of the nozzle is made of plastic.

22. The distributor of claim 19 wherein said drainage pipe extends upwards from the bottom of the distributor and comprises an inlet opening above the bottom of the distributor.

23. A liquid distributor comprising a hood with at least one opening, said hood covering an inlet opening of a drainage pipe against the direct inflow of liquid.

24. The distributor of claim 23 wherein one of the openings of said hood is a horizontally encircling annular gap.

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25. (New) The distributor of claim 24 wherein said annular gap is interrupted by webs between the upper and lower parts of said hood.
26. The distributor of claim 23 wherein a plurality of bores, acting as openings are arranged in a horizontally encircling line around said hood.
27. The distributor of claim 23 wherein at least one bore is in the top of said hood.
28. The distributor of claim 23 wherein the area enclosed by said hood is divided, by an annular inner wall having at least one opening, such that the inlet of said drainage pipe is situated within said annular inner wall.
29. A liquid distributor having a main channel and tapering drainage pipes wherein a preliminary distributor is fitted into the main channel of said distributor and the base of said preliminary distributor extends over the drainage pipes in the form of domes.
30. The distributor of claim 19 wherein a sieve is inserted into said preliminary distributor between the inlet and outlet thereof.